State and Conservation 5-2016

- On-line meeting 26 January 2017 to consider endorsement of GES boundaries for indicators:
  - state of the softbottom macrofauna community,
  - oxygen debt (extended indicator),
  - cyanobacterial blooms,
  - total nutrients.

  (last possiblity to endorse indicators/GES boundaries for use in integrated assessments).
- Next meeting 15-19 May 2017, Sweden.

Use of indicators

- Some indicators shifted from pre-core to core indicators although are likely not operational on a Baltic wide scale for the first version of HOLAS II. Options:
  - available results could be presented as examples of work in progress, for example in the planned web-based version of the report,
  - the indicators could be used as part of the HOLAS II status assessment for those assessment units in which GES boundaries have been agreed.
- Can additional results be included in the updated and final version of the 2nd holistic assessment in 2018 in the case that indicators are tested and made operational during 2017?

Assessment tools

- Hazardous substances:
  - use only core indicators,
  - exclude the biological effects compartment from the integration,
  - the assessment can be used for an overall assessment of contamination status in the Baltic Sea but not for assessing whether good environmental status (GES) has been reached.

- Biodiversity:
  - use the assessment rules applied under the Habitat Directive for species and habitats considered in that directive, i.e. the OOAO,
  - use separate integration for each ecosystem component (birds, fish, mammals, pelagic habitats and benthic habitats) based on ecologically relevant assessment units as first option.

Assessment tools

- Eutrophication
  - proposed adjustments to HEAT 3.0 for use in HOLAS II in the event that the European Commission Decision on GES criteria is agreed,
  - The Meeting was of the view that the HEAT tool in its present structure is well established and is satisfying for use in the 2nd holistic assessment, however, proposed that the proposal should be discussed at the next meeting of the HELCOM IN Eutrophication.
- Baltic Sea Impact Index
  - methodology agreed,
  - how to assess the impacts on ecosystem components still to be tested. Planned BSII workshop under the HOLAS II project to discuss and verify the results offers opportunity for conclusion.

National view points

- Denmark invited to clarify national position on indicators and assessment tools.
- Sweden indicated wish to discuss terminology.

Overview of core indicators in relation to HOLAS II

Noting general study reservations by Germany and Denmark

Core indicators with national study reservations

Indicators for which GES boundary values to be endorsed

Indicators endorsed for shift to core indicator, possibly not operational in whole Baltic Sera for HOLAS II

Candidates proposed to be shifted to pre-core and pre-core indicators proposed to be developed further

Non indigenous species

- Trends in arrival of new non-indigenous species

Eutrophication

- Nitrogen/DIN
- Phosphorous/DIP
- Chlorophyll-a
- Water clarity
- Oxygen debt
- Total nutrients (DK, PL)
- Cyanobacterial bloom index (DK, DE)
- Shallow water oxygen (DK)

Seafloor integrity

- Cumulative impacts on benthic biotopes (DK)

Biodiversity, Commercial fish, Food web, Seafloor integrity

Birds

- Abundance of waterbirds in the breeding season
- Abundance of waterbirds in the wintering season

Mammals

- Distribution of Baltic seals
- Population trends and abundance of seals (DK harbour seal)
- Nutritional status of seals
- Reproductive status of seals

- Number of drowned mammals and waterbirds in fishing gear (reservations for birds)

Fish

- Abundance of coastal fish key functional groups (DE)
- Abundance of key coastal fish species (DE)
- Abundance of salmon spawners and smolt
- Abundance of seatrout spawners and parr

- ICES SSB for 12 species (as 22 stocks)

Benthic habitats

- State of the soft-bottom macrofauna community
- Condition of benthic habitats

Pelagic habitats

- Zooplankton mean size and total stock
- Seasonal succession of functional phytoplankton groups (DK, FI, DE, SE)
- Phytoplankton community composition as a foodweb indicator (DK)
- Diatom/Dinoflagellate index (DK)

Contaminants

- HBCDD
- Metals (EE Cd/Pb fish liver, DK Cd fish liver)
- PBDE
- PFOS
- PAH and metabolites (DK)
- PCB, dioxin and furan (DK PCB-118)
- TBT and imposex (DK)
- Radioactive substances
- White-tailed eagle productivity

- Reproductive disorders (FI&SE use as supplementary)

Commercial fish

- ICES F_{MSY} 12 species (as 22 stocks)
- ICES SSB for 12 species (as 22 stocks)

Marine litter

- Beach litter (DK)
- Litter on the seafloor

Energy and noise

- Continuous low frequency anthropogenic sound (DK)
- Distribution in time and space of loud low- and mid-frequency impulsive sound (DK)

Pressure

- Inputs of nitrogen and phosphorous to the sub-basins
- Operational oil spills from ships

Changes to BEAT: integration approach

Proposal from BalticBOOST workshop and HOLAS II core team:

- Use weighted averaging approach up to the level of ecosystem components (i.e. between indicators, between species/habitats elements, and between species habitat/groups).

Agreement State and Conservation 5-2016:

- Use the assessment rules applied under the Habitat Directive for species and habitats considered under that directive.

Consequence:

- the OOAO approach will be used between indicators assessed for the species and habitats under the HD. Initially, this will be the case for the assessment of seals.

Compared with COM DEC FINAL:

- Proposal by S&C in line with COM DEC.

Change to BEAT: assessment scale

Proposal from BalticBOOST workshop and HOLAS II core team:

- Carry out the assessment at highest possible spatial resolution i.e. HELCOM assessment level 4 (offshore – 17 sub-basins, coastal waters – water types or water bodies). Within each assessment unit, carry out the integrated assessment to the level of ecosystem components, then apply OOAO between ecosystem components to assess status of biodiversity.

Agreement at State and Conservation 5-2016:

- Carry out the integrated assessment at the ecologically relevant assessment scale as defined for the respective indicator.

Consequence:

- Different scales for the five ecosystem components - no overall biodiversity assessment per assessment unit.

Compared with COM DEC FINAL:

- Proposal by S&C in line with COM DEC.

Outstanding issues

- How to consider primary vs secondary criteria of the GES Decision (currently no distinction in the tool),
- Confidence assessment to be proposed to HOD 51-2016 (proposal to use same methods as for for HEAT and CHASE).